

Mentoring to improve productivity (The right way!)

Case studies and practical tips for creating a program

Concepts missing in field and headend technicians:

- Test equipment limitations
- Distortion mechanics
- Visual clues
- The network distortion budget
- Being aware of where you are in the network (impairment-wise)
- Field-oriented math (no calculator)
- Using passive isolation characteristics for troubleshooting
- Understanding pads and equalizers versus temperature
- Unity gain concepts
- Importance of impedance and shielding effectiveness in coaxial cables



Figure 1.

Many opportunities for mentoring come from seizing the moment. Here are some of the things Charter does:

- 1.** Challenge supervisors and managers as well as senior techs to take someone under their wing. Invest an hour a week with that person.
- 2.** Mentor someone who doesn't know they're being mentored! Ask a question such as, "What is your biggest challenge?" or "How confident are you that your techs will come to you for answers?" You'll be surprised at how the answers will spur more mentoring opportunities.
- 3.** Don't forget to feed your senior techs. Even the best baseball players have to go back to the batting cage once in a while!
- 4.** As mentioned above, having the knowledge in your back pocket and ready to share, will make it a lot easier than being asked a question and answering, "Let me get back to you!" You won't know everything, but if you start with an idea of what you will mentor someone on, then it will be in that back pocket, ready to be used when the opportunity presents itself.

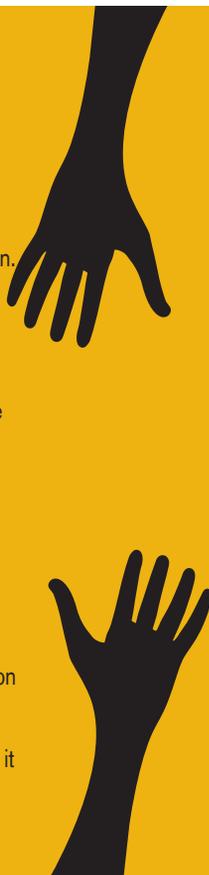


Figure 2.

By Don Gall, CTO, Pangrac & Associates Inc.; and Thomas J. Gorman, VP Field Operations, Charter Communications

Mentoring is a type of training that, formally or informally, helps to insure that the knowledge and values that make a company successful have continuity over the long haul. This is by no means a new concept, and is in use today by many well-known and prosperous companies including Microsoft, Boeing, Hewlett-Packard, Intel, Southwest Airlines, and State Farm Insurance. The successful mentoring programs that these companies use have varying degrees of formality, depending on their culture. The one very important ingredient that is found in all of them is a commitment on the part of the management to support the program. Later on in this article, we talk about some of the ways that Charter Communications has recognized mentoring as a useful tool for success.

The cable industry has traditionally used a form of mentoring to train its employees. After a brief initial indoctrination on company policy, the new employee is asked to accompany an experienced employee around until they understand the job well enough to go out on their own. This concept works very well in some cases, but is fraught with pitfalls, and too many times the new employee is cut loose on his/her own with only the bare mechanics of how to do the job. To make matters worse, after some "time in grade" this new employee then becomes the teacher!

Most people try their very best to do a good job, and many people trained this way eventually become very productive employees. The problem is that employees and customers often fall through the cracks during this process. The results of

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this type of training are very often similar to the parlor game where a sentence is whispered from one guest to the next to see what comes out at the end of the line. Employees will perpetuate practices that are short-term fixes but which could be disastrous for the long-term health of the network. Pangrac & Associates has had the privilege over the years of working with many of the people that maintain the cable network. While most of them want to do the right thing and work very hard, they are not given enough of the right information to be truly efficient. A good portion of their troubleshooting techniques is based on "cause and effect."

A true mentoring program, on the other hand, starts with having very well-qualified individuals work directly with a small group (typically two to four). A format that works well is to start out first thing each morning with a short classroom topic, followed by actual field work to directly apply the learning. Usually, the organization is asked for their toughest problems. This not only causes the students to think, but it has the added benefit of fixing problems that improve network performance. Another important part of the training is to give the students tools that allow them to pass the knowledge on to their fellow employees. We have found this method to be much more immediately effective than a full-time classroom or self-directed courses.

One of the first things that a technician should be taught is that the network is a chain of elements, and each element impacts the network's performance. What they are doing is managing the elements to give the customer the best experience that the network can provide. The lesson here is that knowing what to expect at each point in the chain will help them to be more efficient.

A good example of why this is important occurred during a past mentoring session. When asked for a hard problem, we were shown a large screen TV where the customer



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IN THE LOOP

By Thomas G. Robinson, Executive Vice President,
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A matter of time

It's often said that more, better, faster is the American way. This attitude is part of the push, for example, to bring fiber-to-the-home for carriers like Verizon and ultra high-speed broadband over wide swaths of cable system spectrum for providers like Comcast. The problem with these efforts, though, is that they bring more capability to those that already have access to fast communications.

The real "more" comes from those that provide broadband features throughout, such as South Korea, which has the highest broadband penetration in the world at 93 percent. The real "faster and better" can be found in countries like Japan, where customers are provided the highest average speeds at the lowest average costs in the world.

When confronted with these types of comparisons, the push back you get from broadband providers is typically centered on return on investment (ROI). In other words, if you want more, better and faster, there has to be a way of provisioning it so that the return meets an acceptable level in a reasonable timeframe. This time factor is really the crux of the issue, since the ability to reach an acceptable level will

change over time as the area changes. For instance, an area with low density will increase in population with new development over time, and then in turn, the residents who move in will be younger and more tech-savvy (and high-speed broadband users).

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Accordingly, this is an issue where public policy advocates and service providers often diverge on how to best leap frog the current environment to ensure that broadband availability and adoption can hit the heights that it has in Japan and South Korea. A big part of this debate is centered on bringing broadband to rural America, where availability and usage

rates lag far behind suburban and urban areas. One element of the argument that you hear from providers is that even if broadband is provided, that the take rates would be lower, so the ROI equation is still not workable. The thought goes like this: "higher costs are incurred to bring new services; there is a smaller population to serve; this results in a higher cost per home, which in turn results in higher service rates; since there is a lower than average income in rural areas, this in part leads to less uptake by rural residents, which then leads back to a lower than acceptable ROI." The counter to this, though, is that studies show that across demographic groups, where

Continued on page 34

IN THE LOOP

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Continued from page 33

broadband is valued, the price elasticity is high (rate dissatisfaction may also be high, but broadband is still purchased grudgingly).

To help settle the debate, it is important to study the price/value relationship related to broadband and see what effect it truly has on penetration rates. You find some interesting characteristics when you look at this. For example, about 10 percent of the population will take broadband, almost regardless of the price. These are typically early adopters that must always have the latest and greatest. These will be the first, for example, to sign up for a service like Comcast's 50/5 Mbps high-speed broadband.

On the other end of the spectrum, you have those who are not necessarily Luddites, but they do put broadband and other technologies in the least valued category. Typically, these are not households with children, but surprisingly, this group includes some with high levels of education and income.

Broadband penetration in this country currently stands at an average of 57 percent. If you add in the 10 percent of those that most likely will never adopt broadband, that leaves a gap of 33 percent. A fair portion of these people will adopt if broadband can be provided at reasonable rates, as is seen with DSL or cable

modem services that finally become available in a small city or town. There is also another part of the "gap group" that will adopt once they are able to afford a computer device.

For a number of people, though, the issue of adoption revolves solely around understanding the value of the Internet and/or applications on the Internet that only broadband can reliably deliver (such as streaming video). Research indicates that instilling such value is an educational issue and a question of time. For example,

seniors that do not initially value the Internet find, over time, by outreach, observation and education, that the Internet may have great value to them (e.g., bringing medical information, information about support systems, closer ties to relatives, etc).

Once the Internet is adopted (through the same process, but because basic value has already been instilled, the leap to the next level is quicker), then broadband will be adopted. Accordingly, over time this 33 percent in "broadband limbo" will be whittled down, until the total broadband penetration conceivably begins to reach the types of levels that have been obtained in Korea and Japan.

Doubters typically chime in that those countries have incredibly dense metropolitan areas with young, tech-savvy populations. But they also have big chunks of rural areas with traditional, aging populations, yet again their broadband availability and adoption rates are significantly higher than those in the U.S.

It is notable that whenever there has been a critical need of national concern, such as bringing telephone service decades ago to everyone, or making sure that everyone had access to television, the original thrust of cable TV, diverse interests have come together to make it happen. It's both time, and well worth the time it will take, to make it happen for broadband.

had an on-going problem with grainy pictures (off-air pictures were better). The tech got out his HP analyzer, and showed us RF levels above 3 dBmV and a CNR measurement of 54 dBc, and told us there could not be a system problem. Since we had earlier measured the CNR at the output of the hub serving this area at 52.3 dBc, it was a given that his reading was inaccurate. The technician had been taught that if his reading was better than 47 dBc at the customer's house, it was "good." If he had had a better understanding of how the network functioned, he would have known the measurement was too good and have dug a little deeper.

The other advantage of mentoring is that it can be uniquely tailored to the individual. Each person is a unique blend of backgrounds and comes with a different knowledge base. Also, sometimes on-the-job training and personal experiences have embedded wrong or misguided practices that need to be unlearned. A short list of some of the concepts that we routinely see missing in field and headend technicians are shown in Figure 1.

When the cable industry first adopted HFC, eliminated long cascades of amplifiers, and went to 750/860 MHz bandwidths that were typically only partially filled, operators enjoyed an enormously forgiving operating window. Over the last five years, the unused bandwidth has been shrinking dramatically, which means that the network must be tuned much closer to specifications to deliver acceptable services to each customer. A good mentoring program can be an essential tool to make sure that this happens.

Mentoring can be jumpstarted by bringing in talent to help identify internal mentoring personnel, teach them some of the techniques needed to be effective, and help fill in the gaps where knowledge is missing. Pangrac & Associates has done this for several companies over the years.

Tom Gorman has made the following comments about the state of mentoring inside Charter Communications Inc.

At Charter, as there has been much transition over the years, mentoring fell by the wayside. Why? Wartime promotions! Rampant growth, management and supervisory structure changes, people leaving, new

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To launch a mentoring program:

- Designate a program coordinator.
- Identify mentors and mentees in your organization and connect them.
- Start relatively small to work out the details.
- Establish clear goals that are identifiable and measurable.
- Link your goals to your mission and values.
- Get the support you need from your management.
- Give the program time to work.
- Get outside help as needed to kick the program off.



Figure 3.

people coming, and lots of activity all contributed to the loss of a mentoring culture.

Recognizing the loss of such a powerful means to grow better technicians and leaders, we have started on a very informal process to take advantage of mentoring opportunities. Mentoring, after all, can be set up to be a formal process, but much of

it happens informally. Figure 2 lists some of the methods we use.

On the formal side, what we want to do is to set up a formal mentoring plan. This may be soliciting from your team the names of those who want to be mentored and matching them with those who would like to be a mentor.

Training a person to be a mentor means giving them the tools to do it. A mentor is defined as a “trusted counselor or guide.” Building trust is critical. This may take time. Investing time is necessary for a good mentoring relationship. We want to be a team of trustworthy leaders, who will take the time to invest in our employees.

How do you get started? Figure 3 delineates critical steps to take.

There are several companies that can help with the startup process, and value add to the initial expertise needed to plant the seed. This can be a good move because it can give you a fresh outside perspective on your internal practices, as well as add a knowledge base that you are either missing, or have too buried to participate in the process. If you are patient and support the mentoring process properly, it will become embedded in your corporate culture and it will become self-perpetuating. ■



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